

<u>Conversion</u>	<u>Concentration</u>	<u>Moles</u>
$d(X)/d(t) = -r_a \cdot V / N_{ao}$	$d(C_a)/d(t) = r_a - (C_a \cdot v_o)/V$	$d(N_a)/d(t) = r_a \cdot V$
$r_a = -k \cdot C_a \cdot C_b$	$d(C_b)/d(t) = r_b + ((C_{bo} - C_b) \cdot v_o)/V$	$d(N_b)/d(t) = r_b \cdot V + F_{bo}$
$C_a = N_{ao} \cdot (1 - X) / V$	$r_a = -k \cdot C_a \cdot C_b$	$r_a = -k \cdot C_a \cdot C_b$
$C_b = (N_{bi} + F_{bo} \cdot t - N_{ao} \cdot X) / V$	$r_b = r_a$	$r_b = r_a$
$V = V_o + v_o \cdot t$	$V = V_o + v_o \cdot t$	$V = V_o + v_o \cdot t$
$V_o = 100$	$V_o = 100$	$V_o = 100$
$v_o = 2$	$v_o = 2$	$v_o = 2$
$N_{ao} = 100$	$F_{bo} = 5$	$F_{bo} = 5$
$F_{bo} = 5$	$N_{ao} = 100$	$C_a = N_a / V$
$N_{bi} = 0$	$C_{bo} = F_{bo} / v_o$	$C_b = N_b / V$
$k = 0.1$	$k = 0.01$	$k = 0.01$
	$N_a = C_a \cdot V$	
	$X = (N_{ao} - N_a) / N_{ao}$	